

Remarks/Arguments:

This is a reply to the office action of May 21.

Priority Document

The examiner's reminder that a priority document has not yet been filed was appreciated; however, this application is the U.S. national stage of a PCT application which has no priority claim. We submit that no priority document is required, and we asked the examiner to confirm this in the next action.

Information Disclosure Statement

The examiner struck through four foreign patents listed in our initial information disclosure statement, because we had not supplied copies with the IDS. The reason copies were not supplied with the IDS was because the Notice of Acceptance of Application (form PCT/DO/EO/903) indicated that the PTO had already received copies of the references cited in the International Search Report. The four foreign patents mentioned were among those. We request the examiner consider those copies; if they cannot be found, we will gladly forward additional copies to the examiner by fax or email on request.

Drawings

Revised drawings are filed herewith, with proper figure numbers inserted. The specification has been amended to refer to drawing figures, rather than sheets. The axis of rotation of the satellite in Fig. 30 has been redesignated "M" to avoid confusion with the "X" used elsewhere, and the specification has been correspondingly amended.

Enablement

In rejecting claims 16 - 28 on the ground of enablement, the examiner questioned how the internal and external rotors can rotate at the same speed. On this point, see Fig. 1, which illustrates the rotor synchronization gear 51, which, in order to synchronize both rotors, engages the gear wheel 35 integral with the inner rotor and the gear wheel 36 integral with the outer rotor. Information about the synchronization system is again reported in the description in page 9 at lines 9, 10, 11, 12 which refer to the C-C cross-section of the synchronization box in Fig. 6 and also in Fig. 10, box 48 and member 51, that in the list of reference numerals correspond to the box for the "supercharger side support and rotors synchronization gear wheel". It is possible for the rotors to turn at the same rotational speed, even though they are of different sizes, because there is sliding contact between them. Details of the movement are described at paragraphs [0087] - [0093].

Comments on the prior art

The claims now presented distinguish the invention from the prior art, particularly Bucur's Patent 5674059. In Bucur's device, the vanes sweep against the whole perimeter of the case and the cavities are formed between the two rotors and the casing, whereas in the present invention, the cavities are formed only between the two rotors, and the vanes do not sweep against the entire perimeter of the inner rotor but instead have an oscillating stroke of two times the eccentricity of both rotors.

In the present invention, the element called a "satellite" serves to assure the sealing between the cavities since it stands at the point of contact with the inner surface of the outer rotor, always with the same angle. In Bucur's rotor, there are two sets of vanes, which move along a straight path parallel to the rotation axis and serve to change the displacement. Indeed, Bucur points out that his engine moves in two different ways,

one rotating in order to perform the engine cycle and one linear in order to vary the displacement of the combustion chamber.

Claim amendments

The examiner has indicated that claims 17 - 19, 21 - 25 and 28 would be allowable if they were rewritten to overcome the rejection under section 112, second paragraph, and to include the limitations of the base claim and any intervening claims. In response, we have rewritten claim 17 in independent form by including the subject matter of canceled claim 16. Claims 18, 20, 26 and 28 have been amended to depend from allowable claim 17, and all the remaining claims depend ultimately from claim 17.

We believe that the claims as amended are now in condition for allowance.

Respectfully submitted,

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